

Healthy Homes of Louisiana, llc
PO Drawer 3127
West Monroe, La. 71294

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Bobby@Parksmobileair.com

Beasley, Allen, Crow, Methvin, Portis & Miles, P.C.
Mr. Lance Gould
218 Commerce Street
Montgomery, AL 36104

re: inspection of the Southern Homes factory built
home belonging to the Kelly Murphy family.

Summary

An inspection was completed at the home of Kelly Murphy, Southern Homes serial number DSAL-38810 A/B, located Montgomery, AL on 05-22-2006. The purpose of this inspection was to investigate concerns of possible structural issues within the home. These issues included;

- 1) Elevated moisture content within the perimeter walls causing structural softening and deflections.
- 2) Possible fungal-like growth within the home.

The following conclusions are based on information gathered from this investigation. This home was found to have the following wall construction issue causing moisture accumulation, structural deterioration and mold growth.

Improper application of the wall construction standards.
Does not concur with basic engineering practices or meet the prescriptive standards which requires *"home producers in assuring that homes built and sited in humid and fringe climates are durable and free of moisture-related problems."*

*24 CFR Part 3280 [Docket No. FR-4578-F-02] / 3280.504(b)

Conclusion

The previously stated problem has created extremely moist conditions within the perimeter walls. This moisture has caused structural deterioration and created fungal growth within the wall structure. Due to this inappropriate wall design being utilized within the geographical location of this home, the conditions will only worsen with time and eventually render the home unfit for it's intended purpose. Remediation of this home should be performed by licensed professionals in order to preserve structural integrity and prevent any further occupant exposure.

(SEE FUNGAL SAMPLE REPORT)

Further details are contained within the entirety of this report,

Healthy Homes of Louisiana, llc
Robert Parks, mm

WALL CONSTRUCTION ISSUE

Improper application of the wall construction standards. Does not concur with basic engineering practices or meet the prescriptive standards which requires *"home producers in assuring that homes built and sited in humid and fringe climates are durable and free of moisture-related problems."*

*24 CFR Part 3280 [Docket No. FR-4578-F-02] / 3280.504(b)

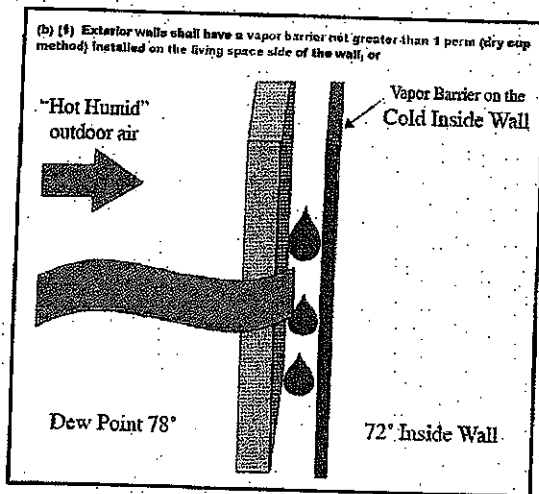


Figure 1 3280.504(b)(1) which is the wall structure utilized within the this home.

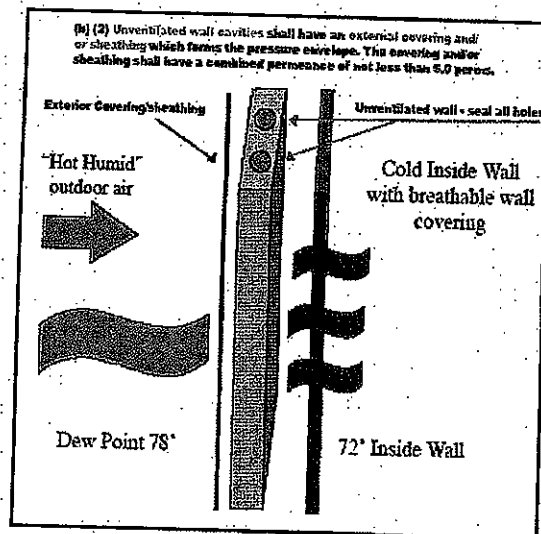


Figure 2 3280.504(b)(2) is a wall standard which would be suitable to meet the prescribed requirements of the Manufactured Home Construction and Safety Standards.

Figure 1 depicts the wall standard which was found to be utilized in the construction of the Murphy's home. This standard requires *"a vapor barrier not greater than 1 perm (dry cup method) installed on the living space side of the wall"*. This wall construction offers little resistance to the moisture laden outdoor air found within the "Hot Humid"/"Fringe" climates, yet requires an almost completely restrictive barrier on the cold indoor side (a.k.a. "living space side") of the wall structure. This serves to trap the moisture within the wall cavity area and cause "cold in summer" side of the wall to condensate much like a "glass of ice tea in the summertime".

This moisture then becomes the source for the fungal growth which occurs. Because of the severe climate conditions of the south, this scenario usually occurs from early May through September. This prolonged exposure to moisture can and has caused premature deterioration of the wall structure. Typical moisture content within the interior partition walls of this home were in the 10% -12% range. Consistent readings within the Murphy's perimeter gypsum walls were in the 25%-40% range.

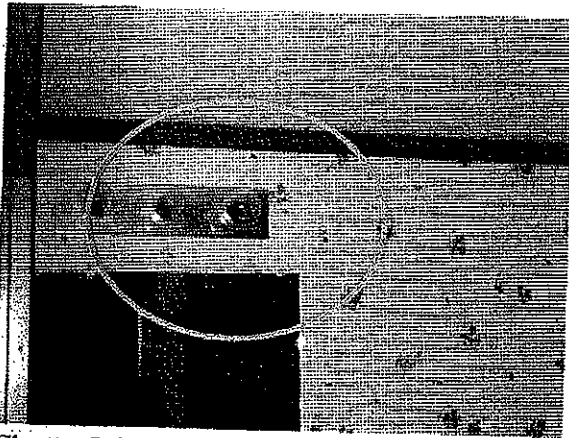


Figure 3 One of several areas where mold growth was suspect was in the master bath exterior wall.

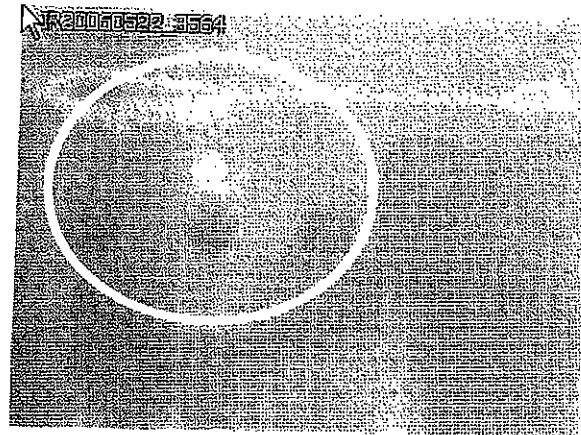


Figure 4 The red areas were found to be areas of air infiltration.

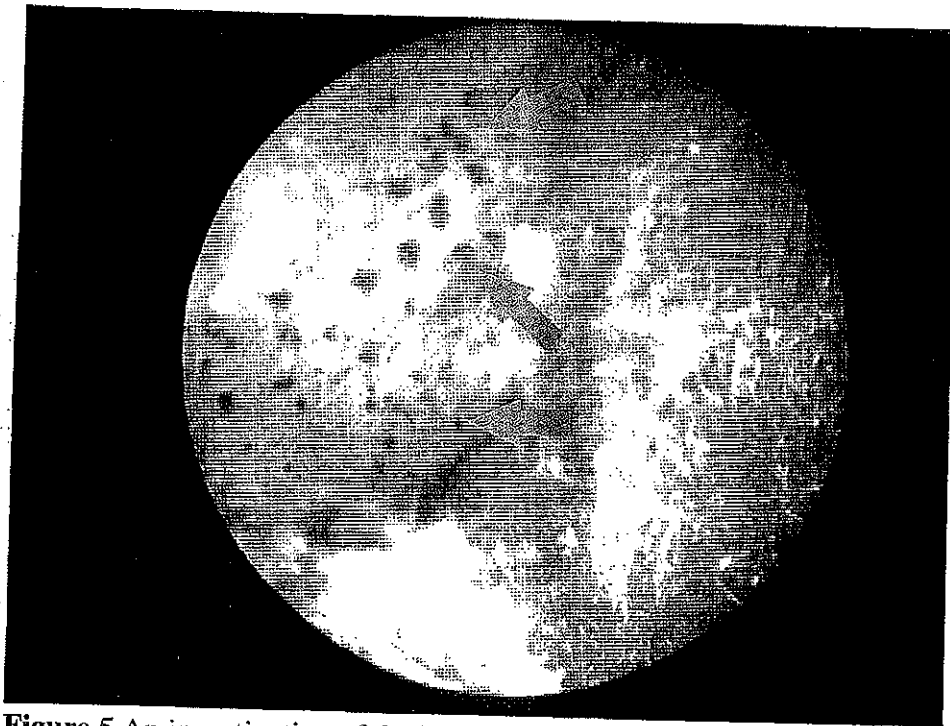


Figure 5 An investigation of the backside of the gypsum board revealed extensive fungal like growth.

Other noted areas

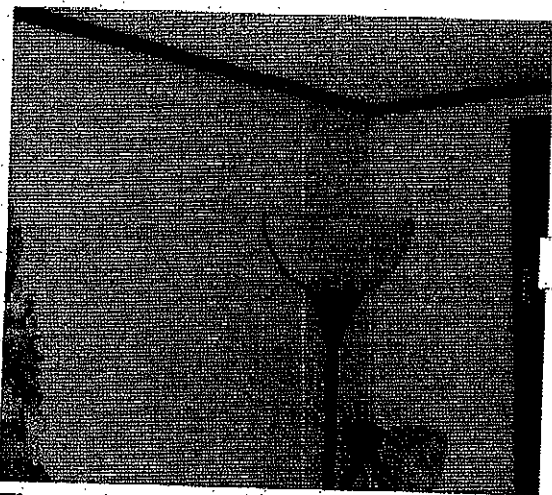


Figure 6 Exterior bedroom wall.

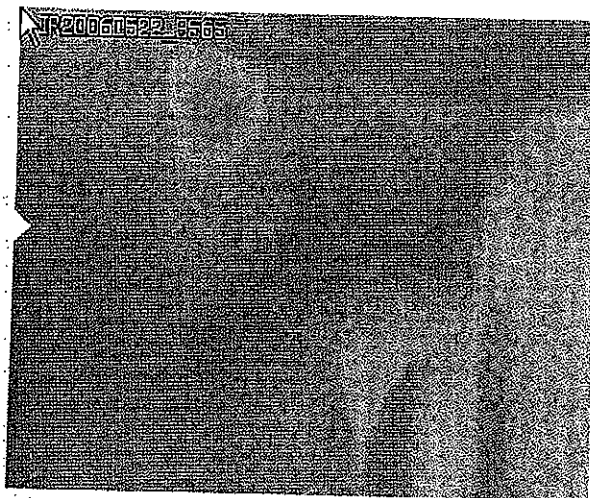


Figure 7 The warmer areas where air /heat infiltration are occurring highlight themselves in the yellow to red colors.

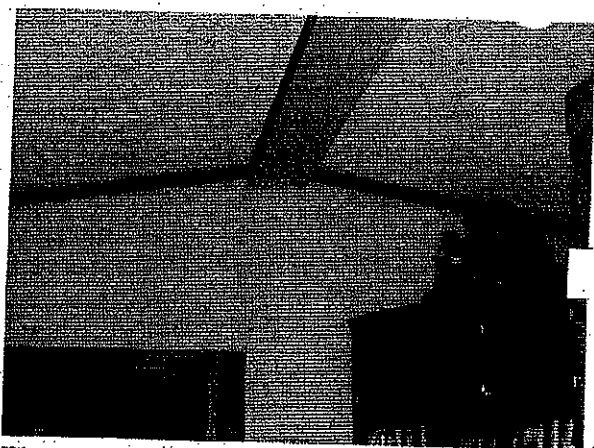


Figure 8 Mating line connection where the two sections of the home are connected.

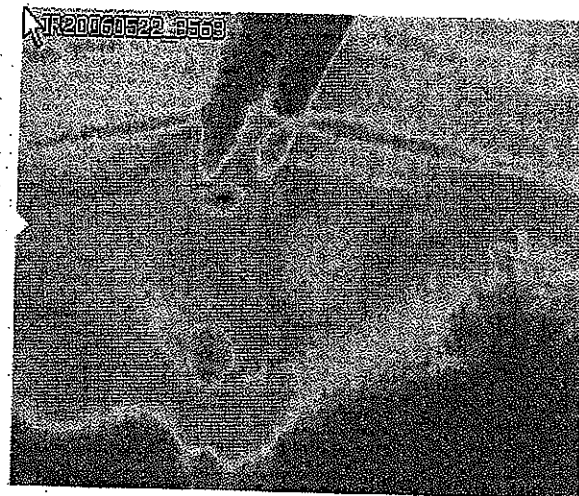


Figure 9 Several areas along the mating connection were noted to have air infiltration as well.

***Noted residual issue;
Slight pressure imbalance
caused by an improperly connected ventilation system -
Sec.3280.103(b)(3)**

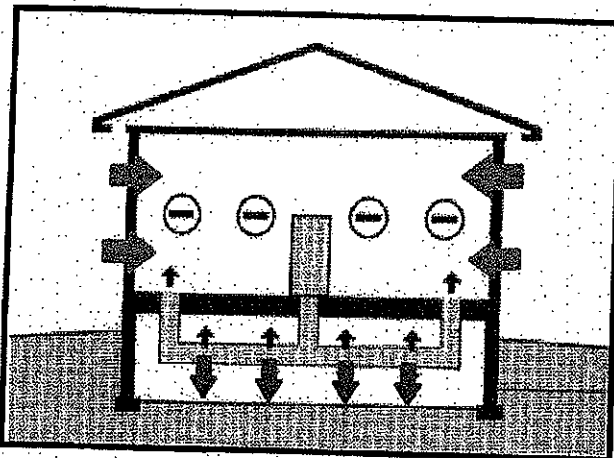


Figure 10

This standard indicates that the ventilation system should be designed to "induce" air into the home as depicted by the red arrows within Figure 10. Without this type of ventilation system, the home will experience a "negative pressure" event, with even the slightest amount of duct leakage. (depicted in Figure 11)

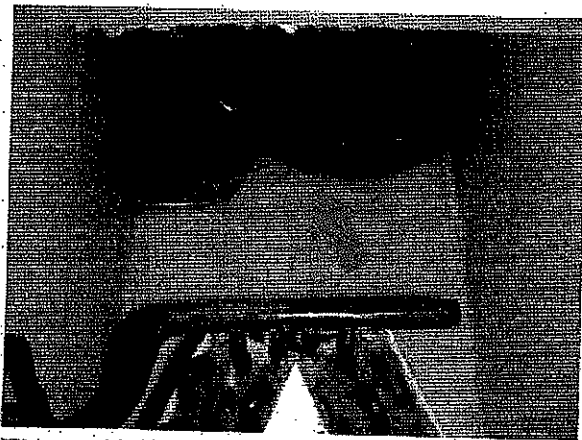


Figure 12

The Manufactured Home Construction and Safety Standard (known as the HUD code) is very prescriptive as to the type of ventilation system which is to be utilized when a home is placed within the Southern climate denoted as "Thermal Zone 1".

Specifically; **Sec. 3280.103 Light and ventilation.(b)(3) In Part.: The ventilation system or provisions shall not create a positive pressure in Uo value Zones 2 and 3 or a negative pressure condition in Uo value Zone 1.**

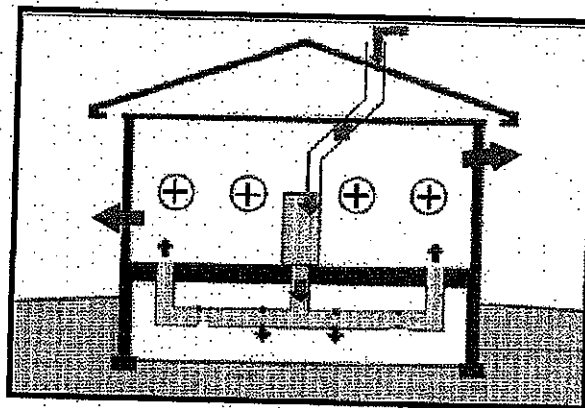


Figure 11

The ventilation system within the Murphy home has been installed in an inappropriate manor which hinders its effectiveness.

FUNGAL SAMPLE REPORT

* Initial air sampling has prescribed a need for additional evidence to be retrieved from the home. After defense inspection has been completed, large samples of gypsum board, from various locations, will be removed and sampled for fungal growth

Points of reference;

1. **Contamination levels of non-specific toxic or allergenic fungal spores.** Mold contamination is considered present in a building when the total mold spore concentration per cubic meter is above **10,000. (Baxter, ETS).**

2. **The National Allergy Bureau** considers mold counts in air of 0 - 900 as low, 900 to 2500 as moderate, 2500 to 25,000 as high, and above **25,000 as very high.** At "high" levels most individuals with any sensitivity will experience symptoms. Acceptable levels for individual species vary since species toxicity varies widely as does spore size, weight, and other features which affect risk to building occupants.

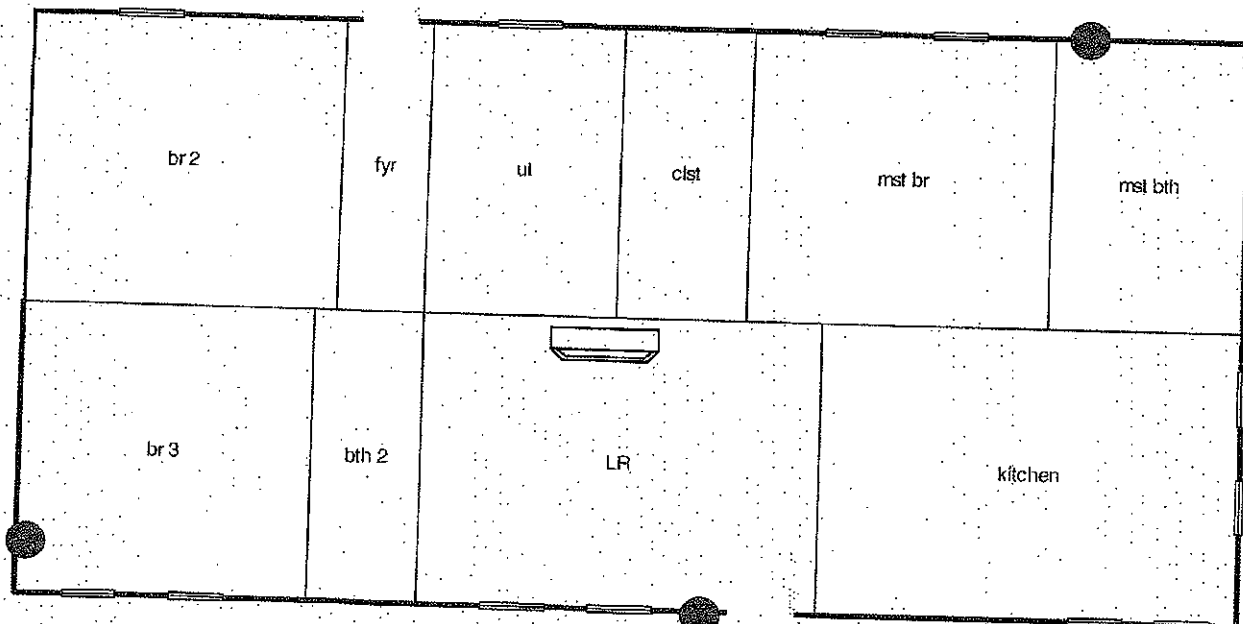
A total of 4 air samples were retrieved from the Murphy's home. The locations were as follows:

Outdoor air sample

#10986844

Master bath w/c

#10986827



End br w/c

Front door w/c

#8925872

#10986800

<i>Acremonium</i> -like	<1	<22	NA
<i>Alternaria</i>	2	44	1
Ascospores	7	156	3.3
<i>Aspergillus/Penicillium</i> -like	19	422	9
Basidiospores	99	2200	47.1
<i>Bipolaris/Drechslera</i>	<1	<22	NA
<i>Chaetomium</i>	<1	<22	NA
<i>Cladosporium</i>	64	1422	30.5
<i>Curvularia</i>	1	22	0.5

Figure 14 Exert from outdoor air sample# 10986844

%

An indication of fungal growth observed from the sampling;

Aspergillus/Penicillium, was found to dominate some of the samples by 98%-99% respectively. This was not found to be the case within the outdoor sampling. The outdoor sample was extremely diversified, as would be expected. (See Figure 14 above)

<i>Aspergillus/Penicillium</i> -like	19000	1266667	99.3
Basidiospores	10	667	<0.1

Figure 15 Exert from wall cavity sample # 10986800

%

<i>Aspergillus/Penicillium</i> -like	1500	100000	98.1
Basidiospores	1	67	0.1

Figure 16 Exert from wall cavity sample # 10986827

%

Mr. Bobby Parks
Healthy Homes of LA, LLC
P.O. Drawer 3127
West Monroe, LA 71294

June 05, 2006

DOH ELAP# 11626

Account# 15609

Login# L134066

Dear Mr. Parks:

Enclosed are the analytical results of the samples received by our laboratory May 31, 2006. All test results meet the quality control requirements of AIHA and NELAC unless otherwise stated in this report. All samples on the chain of custody were received in good condition unless otherwise noted.

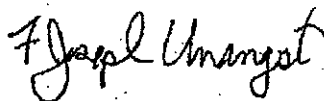
Results in this report are based on the sampling data provided by the client and refer only to items tested. Unless otherwise requested, all samples will be discarded 14 days from the date of this report.

Please contact Client Services at (888) 432-5227, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

Galson Laboratories



F. Joseph Unangst
Laboratory Director

Enclosure(s)

Galson Laboratories

6601 Kirkville Rd. E Syracuse, NY 13057

LABORATORY ANALYSIS REPORT

Client : Healthy Homes of LA, LLC
 Site : Murphy
 Project No. : B A

Date Sampled : 22-MAY-06
 Date Received : 31-MAY-06
 Date Analyzed : 05-JUN-06

Account No.: 15609
 Login No. : L134066
 Incubation Temp : NA

Client ID : 10986844 Lab ID : L134066-1 Air Volume : 0.045 m3
 Analysis : Standard Spore Trap Crowding Factor : 1

Parameter	Total Count	Conc Count/m3	Percent %
Mycelial Fragments	8	178	NA
Pollen	<1	<22	NA
Total Fungal Spores	210	4667	NA

Acremonium-like	<1	<22	NA
Alternaria	2	44	1
Ascospores	7	156	3.3
Aspergillus/Penicillium-like	19	422	9
Basidiospores	99	2200	47.1
Bipolaris/Drechslera	<1	<22	NA
Chaetomium	<1	<22	NA
Cladosporium	64	1422	30.5
Curvularia	1	22	0.5
Epicoccum	<1	<22	NA
Fusarium	<1	<22	NA
Memnoniella	<1	<22	NA
Nigrospora	<1	<22	NA
Paeecilomyces-like	<1	<22	NA
Pithomyces	<1	<22	NA
Rusts/Smuts	3	67	1.4
Scopulariopsis	<1	<22	NA
Stachybotrys	<1	<22	NA
Forula	12	267	5.7
Trichoderma-like	<1	<22	NA
Ulocladium	<1	<22	NA
Other/Unidentified	3	67	1.4

COMMENTS: SOPs: ib-airocell(4)

Sample results were not corrected for the laboratory blank.

Outdoor air

Level of quantitation: 1 Spore
 Analytical Method : GALSON IB-AIROCELL
 Sampler : Spore Trap

Submitted by: BB
 Approved by : APS
 Date: 05-JUN-06
 QC by: Tony D'Amico

< -Less Than > -Greater Than m3 -Cubic Meters NA -Not Applicable
 cm2 -Square Centimeters CFU -Colony forming units g -Grams NS -Not Specified
 ND -Not Detected

Galson Laboratories

6601 Kirkville Rd. E Syracuse, NY 13057

LABORATORY ANALYSIS REPORT

Client : Healthy Homes of LA, LLC
 Site : Murphy
 Project No. : B A

Date Sampled : 22-MAY-06
 Date Received : 31-MAY-06
 Date Analyzed : 05-JUN-06

Account No.: 15609
 Login No. : L134066
 Incubation Temp : NA

Client ID : 10986800

Lab ID : L134066-2

Air Volume : 0.015 m3

Analysis : Standard Spore Trap

Crowding Factor : 2

Parameter	Total Count	Conc Count/m3	Percent %
Mycelial Fragments	32	2133	NA
Pollen	5	333	NA
Total Fungal Spores	19139	1275933	NA
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Acremonium-like	107	7133	0.6
Alternaria	<1	<67	NA
Ascospores	<1	<67	NA
Aspergillus/Penicillium-like	19000	1286667	99.3
Basidiospores	10	667	<0.1
Bipolaris/Drechslera	<1	<67	NA
Chaetomium	1	67	<0.1
Cladosporium	19	1267	0.1
Curvularia	1	67	<0.1
Epicoccum	<1	<67	NA
Fusarium	<1	<67	NA
Memnoniella	<1	<67	NA
Nigrospora	<1	<67	NA
Paecilomyces-like	<1	<67	NA
Pithomyces	<1	<67	NA
Rusts/Smuts	<1	<67	NA
Scoptariopsis	<1	<67	NA
Stachybotrys	<1	<67	NA
Torula	<1	<67	NA
Trichoderma-like	<1	<67	NA
Ulocladium	<1	<67	NA
Other/Unidentified	1	67	<0.1

COMMENTS: SOPs: ib-airocell(4)

Sample results were not corrected for the laboratory blank.

Living room w/c

Level of quantitation: 1 Spore
 Analytical Method : GALSON IB-AIROCELL
 Sampler : Spore Trap

Submitted by: BB
 Approved by : APS
 Date: 05-JUN-06
 QC by: Tony D'Amico

< -Less Than > -Greater Than m3 -Cubic Meters NA -Not Applicable
 cm2 -Square Centimeters CFU -Colony forming units g -Grams NS -Not Specified
 ND -Not Detected

Galson Laboratories

6601 Kirkville Rd. E Syracuse, NY 13057

LABORATORY ANALYSIS REPORT

Client : Healthy Homes of LA, LLC
 Site : Murphy
 Project No. : B A

Date Sampled : 22-MAY-06
 Date Received : 31-MAY-06
 Date Analyzed : 05-JUN-06

Account No.: 15609
 Login No. : L134066
 Incubation Temp : NA

Client ID : 10986827

Lab ID : L134066-3

Air Volume : 0.015 m3

Analysis : Standard Spore Trap

Crowding Factor : 1

Parameter	Total Count	Conc Count/m3	Percent %
Mycelial Fragments	12	800	NA
Pollen	5	333	NA
Total Fungal Spores	1529	101933	NA
<hr/>			
Acremonium-like	<1	<67	NA
Alternaria	<1	<67	NA
Ascospores	<1	<67	NA
Aspergillus/Penicillium-like	1500	100000	98.1
Basidiospores	1	67	0.1
Bipolaris/Drechslera	<1	<67	NA
Chaetomium	8	533	0.5
Cladosporium	12	800	0.8
Curvularia	<1	<67	NA
Epicoccum	<1	<67	NA
Fusarium	<1	<67	NA
Memnoniella	<1	<67	NA
Nigrospora	<1	<67	NA
Paecilomyces-like	<1	<67	NA
Pithomyces	<1	<67	NA
Rusts/Smuts	<1	<67	NA
Scopulariopsis	<1	<67	NA
Stachybotrys	<1	<67	NA
Torula	<1	<67	NA
Trichoderma-like	<1	<67	NA
Ulocladium	<1	<67	NA
Other/Unidentified	8	533	0.5

COMMENTS: SOPs: ib-airocell(4)

Sample results were not corrected for the laboratory blank.

Bathroom wall cavity

Level of quantitation: 1 Spore

Analytical Method : GALSON IB-AIROCELL

Sampler : Spore Trap

Submitted by: BB

Approved by : APS

Date: 05-JUN-06

QC by: Tony D'Amico

< -Less Than > -Greater Than m3 -Cubic Meters NA -Not Applicable
 cm2 -Square Centimeters CFU -Colony forming units g -Grams NS -Not Specified
 ND -Not Detected

Galson Laboratories

6601 Kirkville Rd. E Syracuse, NY 13057

LABORATORY ANALYSIS REPORT

Client : Healthy Homes of LA, LLC
 Site : Murphy
 Project No. : B A

Date Sampled : 22-MAY-06
 Date Received : 31-MAY-06
 Date Analyzed : 05-JUN-06

Account No.: 15609
 Login No. : L134066
 Incubation Temp : NA

Client ID : 8925872 Lab ID : L134066-4 Air Volume : 0.015 m3
 Analysis : Standard Spore Trap Crowding Factor : 1

Parameter	Total Count	Conc Count/m3	Percent %
Mycelial Fragments	<1	<67	NA
Pollen	1	67	NA
Total Fungal Spores	1	67	NA

Acremonium-like	<1	<67	NA
Alternaria	<1	<67	NA
Ascospores	<1	<67	NA
Aspergillus/Penicillium-like	<1	<67	NA
Basidiospores	1	67	100
Bipolaris/Drechslera	<1	<67	NA
Chaetomium	<1	<67	NA
Cladosporium	<1	<67	NA
Curvularia	<1	<67	NA
Epicoccum	<1	<67	NA
Fusarium	<1	<67	NA
Memnoniella	<1	<67	NA
Nigrospora	<1	<67	NA
Paecilomyces-like	<1	<67	NA
Pithomyces	<1	<67	NA
Rusts/Smuts	<1	<67	NA
Scopulariopsis	<1	<67	NA
Stachybotrys	<1	<67	NA
Trichoderma-like	<1	<67	NA
Ulocladium	<1	<67	NA
Other/Unidentified	<1	<67	NA

COMMENTS: SOPs: ib-airocell(4)

Sample results were not corrected for the laboratory blank.

End br wall cavity

Level of quantitation: 1 Spore
 Analytical Method : GALSON IB-AIROCELL
 Sampler : Spore Trap

Submitted by: BB
 Approved by : APS
 Date: 05-JUN-06
 QC by: Tony D'Amico

< -Less Than > -Greater Than m3 -Cubic Meters NA -Not Applicable
 cm2 -Square Centimeters CFU -Colony forming units g -Grams NS -Not Specified
 ND -Not Detected

Galson Laboratories

6601 Kirkville Rd. E. Syracuse, NY 13057

LABORATORY ANALYSIS REPORT

Client : Healthy Homes of LA, LLC
 Site : Murphy
 Project No. : B A

Date Sampled : 22-MAY-06
 Date Received : 31-MAY-06
 Date Analyzed : 05-JUN-06

Account No.: 15609
 Login No. : L134066
 Incubation Temp : NA

Client ID : LAB BLANK Lab ID : L134066-5 Air Volume : NA
 Analysis : Standard Spore Trap Crowding Factor : 0

Parameter	Total Count	Percent %
Mycelial Fragments	<1	NA
Pollen	<1	NA
Total Fungal Spores	<1	NA

Acremonium-like	<1	NA
Alternaria	<1	NA
Ascospores	<1	NA
Aspergillus/Penicillium-like	<1	NA
Basidiospores	<1	NA
Bipolaris/Drechslera	<1	NA
Chaetomium	<1	NA
Cladosporium	<1	NA
Curvularia	<1	NA
Epicoecium	<1	NA
Fusarium	<1	NA
Memnoniella	<1	NA
Nigrospora	<1	NA
Paecilomyces-like	<1	NA
Pithomyces	<1	NA
Rusts/Smuts	<1	NA
Scopulariopsis	<1	NA
Stachybotrys	<1	NA
Torula	<1	NA
Trichoderma-like	<1	NA
Ulocladium	<1	NA
Other/Unidentified	<1	NA

COMMENTS: SOPs: ib-airocall(4)

Sample results were not corrected for the laboratory blank.

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Level of quantitation: 1 Spore
 Analytical Method : GALSON IB-AIROCELL
 Sampler : Spore Trap

Submitted by: BS
 Approved by : APS
 Date: 05-JUN-06
 QC by: Tony D'Amico

< -Less Than > -Greater Than m3 -Cubic Meters NA -Not Applicable
 cm2 -Square Centimeters CFU -Colony forming units g -Grams NS -Not Specified
 ND -Not Detected

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